UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,536	08/31/2001	Lee C. Moore	D/A0A45	3291

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EXAMINER
KOYAMA, KUMIKO C

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/944,536	MOORE, LEE C.
	Examin r	Art Unit
	Kumiko C. Koyama	2876

-- Th *MAILING DATE of this communication appears on the cover sheet with the correspondenc address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Acknowledgement is made of receipt of Amendment filed on February 14, 2004.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6, 8-13, 22-27 and 29-30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Okamoto et al (US 4,813,010) in view of Kuga et al (US 5,276,616).

Okamoto discloses that a general document is divided into a plurality of blocks, and

headings are assigned to the respective blocks. Each block is further divided into subblocks and

subheadings are assigned to the respective subblocks (col 1, lines 12-20). Okamoto teaches a

document processing using heading rules storage for generating documents with hierarchical

logical architectures that when a document data is input at input device, the input document data

is sequentially stored in a document storage. The input document data is segmented into a

plurality of blocks by document processor. In segmentation processing, a line return code and a

space code or segmentation symbol such as "...", ";", ",", or ":" are determined as segmentation

codes. In this case, the segmentation sentence length is measured by counting characters. (col 5,

lines 14-29). Such disclosure teaches the delimiter definition limitation of the claim. Okamoto

further discloses that if the measure value falls within a predetermined value the sentence is

determined as having the possibility of being a heading sentence, which is interpreted as

searching the document to find the occurrences of items corresponding to the defined sub-section

delimiter. When the segmented sentence is determined as having the possible of being a heading

sentences according to the measure number of characters, or delimiter, the processor further

determines whether the segmented sentence is a heading candidate, and then a heading word (col

5, lines 30-40, col 6, lines 27-45). After the segmented sentence is determined as a heading word,

the heading goes through a decision to be assigned with a logical hierarchy, such as C1 in this

case (col 6, lines 47-60). The logical architecture containing the chapter heading is stored in

logical architecture storage (col 6, lines 55-60). Okamoto also discloses that it is know in the art

that document data is processed in units of pages of the printing sheets (col 1, lines 24-25).

Okamoto does not specifically disclose generating the index for the document with found

items corresponding to the sub-section delimiter occurrences.

Kuga discloses an apparatus for creating index of coded textual data including a textual

data storage for storing coded textual data; a text analyzing device for analyzing the stored

textual data in the textual data storage to divide the textual data into a plurality of meaningful

strings, each string being related to its occurrence position in the textual data; a specialized word

storage; an entry selecting module; and an index outputting device for outputting the index of the

textual data by arranging the selected index entries in a prescribed order and outputting the

arranged entries together with symbols indicative of the entry occurrence positions in the textual

data in a visible form (col 5, lines 15-36), which is displaying the created index. The limitation

generating the index for the document with found items corresponding to the sub-section

delimiter occurrences is taught in such disclosure. Kuga further discloses an index generating

unit 6 including an index entry list generator 22 connected to text storage 20 for extracting index

entries from the textual data, an index entry storage 24 connected to index entry list generator 22

for storing the index entries outputted from the generator 22, and an index editor 26 for editing

the index entries stored in index entry storage 24 based on the instructions from the input unit 2,

which includes a keyboard (col 7, line 24) and for applying the edited index entries to printer 10.

Such disclosure teaches checking and correcting the index. Index editor 26 is for alphabetically

rearranging the index entries and classifying the same into different initial letters to enable

printing of the index (col 7, lines 40-52). Kuga also discloses a text input unit, which is a flexible

disk driver for applying text data stored in an external medium to text editor 18, and the output of

the text editor is connected to display (col 7, lines 34-36). Such disclosure teaches that the text is

in an electronic form. Kuga further discloses that the input unit 2 is to enable input by an

operator by generating signals such as character data or operation codes in response to a manual

operation, a text editing unit 4 connected to the input unit 2, a display unit 8 for displaying the

edited text or the like, an index generating unit 6 connected to input unit 2 and text editing unit 4

for automatically generating an index from the text edited by text editing unit 4 and index

generating unit for printing the edited text or the index on paper 28 (col 7, lines 10-23). Kuga

teaches a keyword database for storing extracted set of keywords that are updated and added by

the operator through the keyboard (col 3, lines 35-45)

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to integrate the teachings of Kuga to the teachings of Okamoto in order

to quickly locate the index occurrence position of a major sub-section of the document and

customized indexing particular for a particular user or field for faster and specialized use.

3.   Claims 5, 7, 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Okamoto in view of Kuga as applied to claim 4 above, and further in view of Shiiyama (US

5,905,811). The teachings of Okamoto as modified by Kuga have been discussed above.

Okamoto as modified by Kuga fails to teach scanning a printed version of the document

to generate scan data, performing one of optical character recognition functions and document

recognition functions on the scan data to generate an electronic version of the document.

Okamoto also fails to teach selecting an exemplary sub-section title, performing one of document

recognition and optical character recognition on the selected exemplary sub-section title, and

using at least one recognized property of the exemplary sub-section title as a subsection delimiter

definition.

Shiiyama discloses an image scanner 1 is image input means for optically reading out an

original image of a document and an image data (col 2 lines 3-5, lines 44-46). Shiiyama also

discloses an OCR function in order convert the inputted image information to a text (col 1 lines

7-9). Shiiyama teaches searching the data for one of characters (col 2 lines 60-64).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to integrate the teachings of Shiiyama to the teachings of Okamoto as

modified by Kuga in order to create an electronic version of the document so that the user can

easily locate the searching topic and also make the search faster by inputting the electronic

version into a computer and having the computer do the search.

4.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view

of Kuga as applied to claim 9 above, and further in view of Knowles (US 6,345,764). The

teachings of Okamoto as modified by Kuga have been discussed above.

Okamoto as modified by Kuga fail to teach that the delimiter searcher is operative to search for a defined delimiter comprising a symbol selected from a barcode and a data glyph.

Knowles teaches a document containing barcodes (Fig. 1A).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Knowles to the teachings of Okamoto as modified by Kuga because a reader may be trying to retrieve or searching for a collection of barcode or information contained in a barcode, which simplifies the users search because barcodes can be scanned instantaneously and directly leads to the precise information source.

5.   Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Kuga as applied to claim 9 above, and further in view of Schmidt et al (US 4,903,229). The teachings of Okamoto as modified by Kuga have been discussed above.

Okamoto as modified by Kuga fail to teach that the print engine comprises a xerographic printer.

Schmidt teaches a forms generating and information retrieval system utilizing a xerographic print engine 24 (col 2 line 34).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to modify the teachings of Schmidt to the teachings of Okamoto as modified by Kuga because the xerographic print engine generates forms and inures the benefits of graphic reproduction.

6.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Kuga and Schmidt as applied to claim 15 above, and further in view of Herregods et al (US

6,064,397). The teachings of Okamoto as modified by Kuga and Schmidt have been discussed

above.

Okamoto as modified by Kugaand Schmidt fail to teach that the print engine comprises

an inkjet printer.

     `   Herregods teaches that a printer can be a inkjet printer (col 1 line 42).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to modify the teachings of Herregods to the teachings of Okamoto as

modified by Kuga and Schmidt because an inkjet printer can provide a reproduction of colored

document, therefore it can provide a more precise reproduction of the document when the

document includes colored features.

7.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view

of Shiiyama.

Okamoto discloses that a general document is divided into a plurality of blocks, and

headings are assigned to the respective blocks. Each block is further divided into subblocks and

subheadings are assigned to the respective subblocks (col 1, lines 12-20). Okamoto teaches a

document processing using heading rules storage for generating documents with hierarchical

logical architectures that when a document data is input at input device, the input document data

is sequentially stored in a document storage. The input document data is segmented into a

plurality of blocks by document processor. In segmentation processing, a line return code and a

space code or segmentation symbol such as "...", ";", ",", or ":" are determined as segmentation

codes. In this case, the segmentation sentence length is measured by counting characters. (col 5,

lines 14-29). Such disclosure teaches the delimiter definition limitation of the claim. Okamoto

further discloses that if the measure value falls within a predetermined value the sentence is determined as having the possibility of being a heading sentence, which is interpreted as searching the document to find the occurrences of items corresponding to the defined sub-section delimiter. When the segmented sentence is determined as having the possible of being a heading sentences according to the measure number of characters, or delimiter, the processor further determines whether the segmented sentence is a heading candidate, and then a heading word (col 5, lines 30-40, col 6, lines 27-45). After the segmented sentence is determined as a heading word, the heading goes through a decision to be assigned with a logical hierarchy, such as C1 in this case (col 6, lines 47-60). The logical architecture containing the chapter heading is stored in logical architecture storage (col 6, lines 55-60). Such disclosure reads on the claimed limitation of creating the index for the document from the found items corresponding to the sub-section delimiter occurrences. Okamoto also discloses that it is know in the art that document data is processed in units of pages of the printing sheets (col 1, lines 24-25). Okamoto teaches that the document processor is connected to input device including a keyboard to perform centralized handling and processing of input documents. The Document pocessor is also connected to original document storage for storing input original documents and to display controller for causing display to display the input original document read out from the storage (col 2, lines 20-35).

Okamoto fails to teach scanning the document to generate scanned document data and performing recognition functions on the scanned document data to generate a recognized version of the document.

Shiiyama discloses an image scanner 1 is image input means for optically reading out an original image of a document and an image data (col 2 lines 3-5, lines 44-46). Shiiyama also discloses an OCR function in order convert the inputted image information to a text (col 1 lines 7-9). Shiiyama teaches searching the data for one of characters (col 2 lines 60-64).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Shiiyama to the teachings of Okamoto in order to create an electronic version of the document so that the user can easily locate the searching topic and also make the search faster by inputting the electronic version into a computer and having the computer do the search.

8.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Kuga as applied to claim 1, and further in view of Alam et al (US 6,336,124). The teachings of Okamoto as modified by Kuga have been discussed above.

Okamoto as modified by Kuga fails to teach that the automatically generated index is an automatic generated table of contents of the document, and the items corresponding to the defined sub-section delimiter are chapter titles displayed in an order in which they appear in the document.

Alam teaches that heading of input document may be located to generate a linked table of contents page containing the headings, each table of contents heading containing a link to the heading contained in the output document (col 2, lines 37-45). Alam also discloses that the table contents is displayed in the display page (col 19, lines 17-25).

Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Alam to the teachings of Okamoto as

modified by Kuga in order to easily show the hierarchy of the documents as well as facilitating

the selection and view of a particular page of the document, which provides faster access to the

particular part of interest in the document.

Response to Arguments

9.   Applicant's arguments with respect to claims 1-19 and 21-27 have been considered but

are moot in view of the new ground(s) of rejection.

The Applicant has amended claims 1, 9 and 18. In claim 1, the limitation "creating the

index for the document from the found items corresponding to the sub-section delimiter

occurrences" is amended with "generating the index for the document with found items

corresponding to the sub-section delimiter occurrences." In claim 9, a new limitation "text and

text location" was added. In claim 18, a new limitation "a document processor operator" was

added. Such changes necessitated the examiner to consider a new interpretation of the claims and

therefore, new search and consideration was necessary. Subsequently, a new rejection was

applied and arguments are moot in view of new grounds of rejection.

Applicant's arguments with respect to claim 20, which did not present new limitations by

the Amendment, have been considered by are not persuasive.

For claim 20, the Applicant submitted that "the office action does not include a specific

reason for the rejection of claims 19 or 20. Furthermore, neither Okamoto nor Shiiyama disclose

or suggest defining a sub-section delimiter comprises marking a paper version of the document

with at least one special demarcation symbol prior to scanning the document" (Page 20,

Paragraph 6). The examiner respectfully disagrees.

Claim 20 was rejected over Okamoto in view of Shiiyama. As presented in the rejection

mailed November 26, 2003, Okamoto discloses that a general document is divided into a

plurality of blocks, subblocks, subheadings, etc, and the process of the dividing, which read on

the limitation "a method for dividing a document into separate sections" (Page 5, lines 20+). The

examiner also indicates the parts of the Okamoto reference she believes reads on the limitation

searching the document (recognized version) to find the occurrences of items corresponding to

the defined sub-section delimiter and how the document data is segmented into blocks utilizing

the delimiter (Page 6, lines 3-11). In which this case, the delimiters are either a line code, a space

doe or segmentation symbol. The examiner indicated in the rejection that "scanning the

document..." and "performing recognition functions..." are not specifically taught by Okamoto,

but also indicated that Shiiyama teaches a scanner and an OCR function that performs such

process and would have been obvious to combine the two references.

Regarding "defining the sub-section delimiter comprises marking a paper version of the

document with at least one special demarcation symbol prior to scanning the document," the

examiner believes that Okamoto in view of Shiiyama reads on the limitation. The examiner

points out that Okamoto teaches that the delimiters are defined as one of a line return code, a

space code or segmentation symbol. Although these symbols are very commonly seen on paper,

however, Okamoto just itself is not clear whether these symbols were indicated on the paper

version of the document or if it was added electronically after the scanning. By introducing

Shiiyama, Shiiyama teaches that the electronic text version is a direct conversion from the paper

document, which means that these are symbols, such as a line return, space or segmentation

symbol, were present on the paper version as well, because Shiiyama discloses that the input
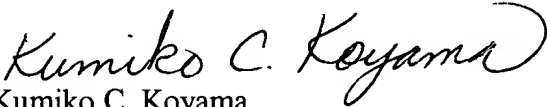
means optically reads out an original image of a document and then the image is put through an

OCR function to convert it to electronic text. Therefore, the examiner concludes that these

delimiter symbols were present in the paper version and the symbols were used for delimiter

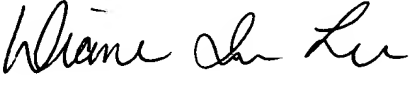search. Subsequently, the references read on the limitation.

Applicant's arguments regarding claim 28 is persuasive. However, new rejection has

been applied. Therefore, this action is non-final.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kumiko C. Koyama whose telephone number is 571-272-2394.

The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kumiko C. Koyama
Kumiko C. Koyama
May 03, 2004

DIANE I. LEE
PRIMARY EXAMINER